

**COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

	)	
BOSTON GAS COMPANY d/b/a	)	
KEYSPAN ENERGY DELIVERY NEW ENGLAND	)	D.T.E. 03 - 40
	)	

**INITIAL BRIEF OF THE  
MASSACHUSETTS DIVISION OF ENERGY RESOURCES**

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## **I. INTRODUCTION AND PROCEDURAL HISTORY**

On April 16, 2003, the Boston Gas Company d/b/a Keyspan Energy Delivery New England (“Boston Gas” or the “Company”) filed with the Department of Telecommunications and Energy (the “Department”): (1) a petition pursuant to G.L. c. 164, § 94 for approval of a proposed increase of \$ 61.3 million dollars<sup>1</sup> in its base rates, and (2) a proposed performance-based ratemaking (“PBR”) plan.

The Department docketed the petition as D.T.E. 03-40. The Massachusetts Division of Energy Resources (“DOER”) filed a timely Motion to Intervene on May 12, 2003 which was granted by the Department on May 23, 2003.

Pursuant to notices duly issued on April 17, 2003 and May 7, 2003, the Department held public hearings on May 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, and 22<sup>d</sup>. The Attorney General of the Commonwealth filed a notice of intervention as of right in the proceeding and the following parties filed Motions to Intervene and/or for Limited Participation in the proceeding, which were granted by the Department: The Energy Consortium, the Massachusetts Oilheat Council, Inc. and the Massachusetts Alliance for Fair Competition, Inc., the United Steelworkers of America, AFL-CIO-CLC, Associated Industries of Massachusetts, Inc., the Low-Income Home Energy Assistance Program, the Berkshire Gas Company, Fitchburg Gas and Electric Light Company, NSTAR, the Western Massachusetts Electric Company, and the Bay State Gas Company.

On May 23, 2003 and June 23, 2003, the Department conducted procedural conferences and established dates for discovery, evidentiary hearings, and the submission of briefs. On June 23, 2003, the Office of the Attorney General filed a

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<sup>1</sup> This figure was revised upward during the hearings to approximately \$ 62 million dollars.

motion to bifurcate the base rate proceeding from the PBR proceeding, which has not been acted upon by the Department to date.

The Department conducted twenty-six days of evidentiary hearings and admitted in excess of three hundred exhibits into evidence.

In support of its petition, the Company sponsored the following witnesses:

Joseph F. Bodanza, Senior Vice President of Regulatory Affairs, Chief Accounting Officer for KeySpan Corporation and Chief Financial Officer of KeySpan Energy Delivery New England. Mr. Bodanza's testimony was provided to describe, generally and conceptually, the Company's petition, explain the corporate structure, and describe the Company's proposed Performance-Based Rate plan. Mr. Bodanza's testimony also addressed several other significant aspects of the Company's filing, which included a proposal to establish a reconciliation mechanism for pension and post-retirement employee benefits conceptually similar to a Z-factor (the impact of exogenous events upon costs that are not reflected in changes in inflation or other indices), a weather normalization clause, a proposed modification to the existing non-firm, margin-sharing structure, and a funding mechanism for research and development for the natural gas industry;

Patrick J. McClellan, Director of Rate Recovery for KeySpan Corporate Services, LLC. Mr. McClellan's testimony was provided to support the calculation of the Company's revenue requirement and claimed revenue deficiency;

Justin C. Orlando, Vice President of Human Resources for KeySpan Corporate Services, LLC. Mr. Orlando's testimony was provided to address issues of employee

wages, salaries, and benefits, and to support the Company's post-test year adjustments concerning total compensation levels, and union and non-union wages, salaries, incentives, and health care premiums;

Lawrence R. Kaufmann, P.h.d., a Partner at Pacific Economics Group, LLC. Dr. Kaufmann is an economic consultant engaged by the Company for this proceeding, who offered testimony in support of the X factor component of the Company's proposed PBR Plan, including the development of a productivity differential, an inflation differential, and a consumer dividend;

Paul Ronald Moul, a Managing Consultant at the firm of P. Moul and Associates. Mr. Moul is a consultant engaged by the Company for this proceeding who offered testimony concerning the rate of return on common equity proposed by the Company in its filing;

Ann E. Leary, Manager of Rates for KeySpan Energy Delivery New England. Ms. Leary's testimony was offered in support of the Company's post-test year revenue, gas-cost adjustments, and cost-of-service study;

A. Leo Silvestrini, Director of Rates and Regulatory Affairs for KeySpan Energy Delivery New England. Mr. Silvestrini's testimony was provided in support of the Company's marginal cost study, rate design, and the Company's proposal to establish a weather normalization clause;

Ronald B. Edelstein, Director of State Regulatory Programs for the Gas Technology Institute. Mr. Edelstein was employed by the Company to provide testimony in support of the Company's proposal to collect a surcharge from rate payers

to fund gas industry research and development; and

Mary Thompson Grassi, Senior Operations Supervisor for KeySpan Corporation. The Company did not provide pre-filed testimony for Ms. Grassi. However, Ms. Grassi appeared before the Department on July 16, 2003, with Mr. Bodanza.<sup>2</sup> Ms. Grassi was sworn at the proceeding and provided testimony concerning the Company's low-income energy programs in New York and the Company's proposal to develop programs similar to the New York One-Track program; a payment assistance program for low-income and fuel assistance-eligible customers; for New England.

The Office of the Attorney General sponsored rebuttal testimony provided by the following witnesses:

David J. Effron, a consultant employed by the Office of the Attorney General to provide testimony concerning elements of the Company's claimed revenue deficiency, including the incremental cost adjustment in the Company's cost-of-service study, the pro forma pension expense, and the calculation of income taxes, and the Company's proposed pension/PBOP reconciliation adjustment clause;

Lee Smith, a Managing Consultant and Senior Economist at La Capra Associates. Ms. Smith was employed by the Office of the Attorney General to provide testimony concerning the Company's proposed PBR Plan; and

Timothy Newhard, a financial analyst with the Office of the Attorney General. Mr. Newhard provided testimony concerning statements made by the Company's witness, Mr. Moul, regarding the Company's proposed pension reconciliation mechanism.

The Massachusetts Community Action Program Directors Association, Inc.

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2 See Tr. Volume 12, pages 1512 – 1517.

sponsored rebuttal testimony provided by:

Elliot Jacobson, Director of Energy Services for Action, Inc. Mr. Jacobson provided testimony concerning the development by Boston Gas of arrearage management and price stability programs for low-income customers.

## **II. ISSUES PRESENTED**

### **A. DESIGN OF PERFORMANCE BASED REGULATION (“PBR”) MECHANISM**

To meet the Department's standards for a well-designed PBR Plan, a proponent is required to demonstrate that its approach is more likely than current regulation to advance the Department's objectives for incentive regulation. Boston Gas' proposed PBR Plan cannot do that. The Proposed Plan will not advance the Department's objectives of economic efficiency, cost control, lower rates, and reduced administrative burden<sup>3</sup> in regulation. Boston Gas relied upon incorrect assumptions and inaccurate data concerning productivity and cost containment and developed an inherently unreliable cost model, undercutting any assurance that the Proposal could implement the Department's goals and objectives for incentive regulation.

Boston Gas substituted unsubstantiated judgments of management for empirical data in formulating its proposed consumer dividend. Boston Gas failed to consider and learn from its experience under its first PBR Plan under which, except for a nominal increase in 1998, Company productivity diminished. These fundamental flaws are substantively discussed infra.

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3 Incentive Regulation; D.P.U. 94-158 (1995) at 58. In addition to these objectives, the Department's traditional ratemaking goals include the provision of safe and reliable energy service. The Department's seven criteria for evaluating incentive ratemaking proposals are set forth in full infra. at pages 20 - 22.



## **B. EXOGENOUS FACTORS**

Boston Gas asserts that its proposed exogenous factors were adopted verbatim from the mechanism approved by the Department in Boston Gas (Phase I); D.P.U. 96-50 (December 2, 1996). This assertion is not entirely accurate. First, the proposal includes additional, modifying language that has the potential to open the door to additional factors outside of the scope of the Department's prior determination. Second, Boston Gas failed to provide any basis to demonstrate proportionality, which, as is discussed infra, at page 29 under Inclusion of Exogenous Factors, is required by the Department, in calculating its threshold amount of \$ 500,000 per exogenous event.

DOER recommends that the Department clarify any ambiguity as to exogenous factors and require Boston Gas to demonstrate that its proposed threshold figure is proportionate to the Company's revenues.

## **III. ARGUMENT**

### **A. THE DEPARTMENT'S IMPLEMENTATION OF A "SECOND GENERATION" PBR PLAN MUST BE PREDICATED UPON COMPANY-SPECIFIC EXPERIENCE COMBINED WITH THE DEPARTMENT'S REFINED ANALYSIS OF EACH COMPONENT OF THE PLAN.**

#### **Introduction**

The Department has established precedents for incentive mechanisms in rate proceedings, mergers and acquisitions, DSM programs, and as performance incentives for telecommunications, electricity, and natural gas distribution companies. With the filing of the present petition, the Department is faced with a "second generation" of

PBR; the opportunity to craft a refined PBR plan that incorporates the actual experiences of Boston Gas with the lessons learned from other incentive mechanisms. The promise of incentive regulation articulated by the Department in 1995; the development of carefully designed plans that credibly assign benefits to customers, that improve services, and that offer exceptional reward and improved financial integrity; Incentive Regulation, supra. at 54; will only be realized in this “second generation” of PBR if the Department uses its authority and flexibility to craft a company-specific plan grounded in experience, but expansive beyond the limited precedent established through initial incentive regulation mechanisms.<sup>4</sup>

The Department’s development of a precise and refined incentive mechanism for Boston Gas should not be constrained by the models of the past. The Department should look to using the experience gathered through Boston Gas’ implementation of its first PBR plan to design a better and more responsive plan. As is evident from the data gathered during the rate proceeding, Boston Gas’ Plan suffers from significant flaws based upon incorrect assumptions concerning its performance under the prior PBR plan and limitations in the design of the cost study. The Department has the ability to build upon the Boston Gas Proposal, correct these deficiencies, and create an operational model for PBR that will carry forward the Department’s goals and objectives

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4 . The conclusion that the regulation of utilities would benefit from approaches that introduced the forces of the competitive market is not new to economic regulation. As commented on by Paul Osborne during the hearings, in 1875, the Acts of Parliament adopted sliding scale regulation of London gas utilities. The rate mechanism was premised on the conclusion that a carefully constructed incentive-based regulatory scheme would yield superior prices, performance and reliability than rigid price controls and frequent government reviews. The London Sliding Scale introduced performance based regulation by allowing company dividends to rise only if prices were reduced and requiring dividend reductions if prices were increased. See Ralph Turvey; *The Sliding Scale: Price and Dividend Regulation in the Nineteenth Century Gas Industry*; (NERA) 2002

for incentive regulation.

**The Department's Mandate to Ensure Just and Reasonable Rates Affords It Expansive Authority to Fashion Alternative Regulatory Mechanisms**

As a matter of law, the Department has the legal authority and expansive discretion to consider a range of regulatory alternatives, so long as the ultimate statutory goals of just and reasonable rates are achieved:

Where statutes of general application allow a broad range of regulatory discretion but do not speak in particularized terms to an instant case, the Court has recognized that “the decision regarding what standard to apply is left to the Department’s discretion.” Wolf, 407 Mass. 370 (in the parallel context of G.L. c. 159). Eastern Edison Merger, D.T.E 99-47 (2000) at 16.

The Department has specifically recognized this expansive authority to craft alternative regulatory mechanisms within the context of incentive regulation:

[Thus], under G.L. c. 164, § 94, the Department is responsible for ensuring the “propriety” of proposed rates. In practice the Department has interpreted this to mean rates are “just and reasonable.” Section 94 also requires that rates are not unjustly discriminatory or unduly preferential (citations omitted). The statute does not prescribe a particular method by which the Department must fulfil its statutory mandate of setting just and reasonable rates; nothing in G.L. c. 164 indicates that the legislature intended to limit the Department to a specific regulatory scheme, such as COS/ROR. The Department’s practice over many decades in the regulation of the electric and gas industries shows a consistent pattern in construing its authority to adopt alternative methods of regulation in response to changing market circumstances and consumer needs so as to meet its regulatory objectives. Incentive Regulation, supra. at 42.

The Department has the broad discretion to examine and initiate changes in regulatory policy and to determine that a new regulatory framework may better serve its goals. In NYNEX; D.P.U. 94-50 (1995), the Department determined that, while the transitional rate process furthered its policy goals for the Department’s regulation of

NYNEX, revising the transition process was a means to an end, and not a policy goal in and of itself. Accordingly, finding that compelling reasons existed for changing the process in order to further the goals, the Department made a significant shift in its precedent concerning rate-restructuring:

If the Department finds that an alternative form of regulation is an improvement over current regulation, it may allow, or even direct, the Company to replace the current system with the alternative, even though both systems may ultimately meet statutory obligations. NYNEX, at 112, 126, 133 - 134.

Based on the evidenced elicited during these proceedings, the Department has ample basis to revise and create a new and better model for the Boston Gas PBR Plan.

**Department Precedent Supports the Design of New Models That Are Company-Specific and Responsive to the Varied Circumstances of Individual Utilities**

The Department has established precedents concerning the design of various components of PBR plans. Of significance to this proceeding is the precise design of the price cap plan that will function to ensure just and reasonable rates over the course of the Plan. In considering and developing such components, the Department is not limited to the specific structures heretofore implemented. Based upon specific facts, the Department has the discretion to modify those components in order to design a more effective plan:

The Department's fundamental goals for PBR are not sacrificed by revising the components of the price cap formula, but rather are further promoted for such revision. The Department has both the discretion and the obligation to consider such a revision to the "process" in furtherance of just and reasonable rate-making and its goals for PBR. NYNEX, supra. at 112, 125 – 126.

The Department exercised similar discretion in Boston Gas; D.T.E. 96-50-D (January 16, 2001) in addressing the development of the accumulated inefficiencies factor. The Department determined in that proceeding that the experience of the telecommunications industry did not provide the best formula for a gas utility and altered its original formula:

In D.P.U. 96-50 (Phase 1) the Department established an accumulated inefficiencies factor for Boston Gas based by relying, by analogy, upon the only other case precedent for moving from cost of service to PBR; the telecommunications industry, as articulated in the NYNEX decision; D.P.U. 94-50. However, upon further consideration, in 96-50-D, the Department determined that comparing the experience of Boston Gas to the telecommunications industry was not the best way to determine the accumulated inefficiencies factor, that the comparison was not the most appropriate measure. Despite original precedent, upon further review and consideration of additional, company-specific information, the Department determined that there was a better way to determine the correct components of the PBR formula and went forward to establish them. [emphasis added] D.T.E. 96-50-D (January 16, 2001) at 6 – 7.

While PBR plan components should be considered with respect for prior formulations, Department precedent establishes several significant conclusions. A well-designed plan should be developed in light of the best available data. Analogies from other industries may not automatically work for a specific gas utility. Finally, a PBR plan will only work as well as each component part:

Identifying goals and developing the structure are essential to correctly getting the right incentives. Getting the numbers right is essential to prevent windfall gains or losses and assure the long-term viability of the PBR. Getting the numbers wrong is a sure fire way to produce a PBR backlash.<sup>5</sup>

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<sup>5</sup> Exh. DTE RR-36; *The Regulatory Assistance Project: Performance-Based Regulation for Distribution Utilities* (December 2000) at 31 – 32.

In the present proceeding, the Company's expert witness for design of the price cap plan, Dr. Kaufmann, predicated most of his working assumptions and methodologies on his experiences in the telecommunications industry, not the natural gas industry. In fact, Dr. Kaufmann characterized this transfer and design from telecommunications experience to Boston Gas as completely novel and "cutting-edge."<sup>6</sup>

As the Department observed in D.T.E. 96-50-D, supra., such comparisons to telecommunications may not be the most appropriate methodology for fashioning a PBR plan for a natural gas utility. DOER contends that in this proceeding, which will establish the paradigm for other natural gas and electric distribution utilities, such comparisons are NOT appropriate nor are they the best way to "get the numbers right."

**B. BOSTON GAS' PROPOSED PLAN FAILS TO MEET THE  
DEPARTMENT'S STANDARD OF REVIEW FOR PBR PLANS**

**Standard of Review**

The Department has articulated its standard of review of PBR plans as follows:

A petitioner seeking approval of an incentive proposal is required to demonstrate that its approach is more likely than current regulation to advance the Department's traditional goals of safe, reliable, and least-cost energy service and to promote the objectives of economic efficiency, cost control, lower rates, and reduced administrative burden in regulation. D.P.U. 96-50, supra. at 241 – 242.

The Proposal proffered by Boston Gas cannot meet this standard because it:

(1) is premised upon inaccurate assumptions and studies, and (2) fails to provide any empirical basis for specific components of the Plan.

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<sup>6</sup> Tr. Vol. 11, page 1334, 6 – 10. See also, Tr. Vol.11, pages 1427, 7 – 17, 1430, 13 – 24, 1431, 1 – 24, 1432, 1 – 2.

### **Faulty Assumptions Render the Cost Study Inherently Unreliable**

The PBR plan approved in D.P.U. 96-50, which forms the basis for Boston Gas' current Proposal,<sup>7</sup> has been ineffective in incenting productivity improvements. Boston Gas asserts, in support of the Proposal currently before the Department, that the Company has enjoyed lower costs and greater productivity as the result of its operations under PBR.<sup>8</sup>

In fact, the reverse is true. The productivity data provided by the Company during the hearings (as opposed to the initial data submitted with the Company's petition) demonstrate that the Company's productivity has suffered significantly between 1990 – 2001. Of greater significance is the fact that, except for a nominal

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7 Exh. KEDNE/JFB – 1, page 21, 3 – 19:

Q. Has the Company's experience under the previous PBR Plan had an effect on the structure of the Company's proposal in this proceeding?

A. Yes. Although the Company finds itself in the position of needing base-rate relief in this proceeding, the Company's request represents its first base-rate request since 1996... From today's perspective, the Company has avoided a base-rate increase for a relatively prolonged period as a result of two primary factors: (1) the implementation of a PBR plan in 1996 that, over the five-year term of the plan, provided the Company with a measure of additional revenue in consideration of inflationary cost increases; and (2) the Company's success in implementing cost containment and revenue-enhancement initiatives, which mitigated the impact of system-reliability capital investments and inflationary cost increases not covered by the PBR adjustment.

Exh. KEDNE/JFB – 1, page 24, 1 – :

In this case, the Company is proposing to maintain the basic structure of the PBR Plan adopted by the Department in D.T.E. 96-50. However, the Company is proposing modifications to the price-cap formula based on Dr. Kaufmann's analysis of the productivity of the Northeast gas distribution industry and of the Company.

8 Exh. KEDNE/LRK-1, page 15, 5 - 8:

Based on this research, I found that Boston Gas costs were about 27% below their predicted value, and this result was statistically significant. I have therefore concluded that Boston Gas is a significantly superior cost performer. Indeed, Boston Gas ranked second in our sample and is therefore one of the industry's very best cost performers.

increase in 1998, Company productivity worsened during the time the current PBR Plan was in effect, as illustrated in Table 1:

**Table 1**  
**Total Factor Productivity**  
**Boston Gas**  
**1990-2001**

	TFP Index
1990	1.000
1991	0.938
1992	0.940
1993	0.942
1994	0.931
1995	0.924
1996	0.946
1997	0.954
1998	0.973
1999	0.928
2000	0.805
2001	0.911

Exh. RR-DOER-1

The data also show a steep drop in the Company's productivity in the year 2000. Based on Exh. RR – DOER - 1, this drop was due to an increase in the Company's input quantity index of 15% in a single year.<sup>9</sup> Such an investment strategy does not support the conclusion that the PBR Plan being proposed meets the standard of review established by the Department.

The obvious flaws in the Company's assumptions of superior performance undermine the credibility of the Company's Proposal. As defective as these

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9 Tr. Volume 10, page 1176, 6 – 13 (Kaufmann):  
Q. In Column CM we see that from 1999 to 2000 O & M increased from \$ 50,860 to \$ 89,629 for Boston Gas. Is that Correct?  
A. I believe it's \$ 89,627 in 2000.  
Q. This is an increase of 76 percent; is that correct, Dr. Kaufmann?  
A. Subject to check, yes, it looks about 76 percent.



assumptions are in light of the actual data, however, they do not stand alone.

The Company asserted, in support of its conclusion concerning cost savings, that the primary source of these savings, as shown by the econometric study, was staff reductions.<sup>10</sup>

The data provided by the Company in response to Exh. RR – DOER – 1 and set forth here in Table 2, in fact shows that the Company's labor costs increased during the term of the PBR Plan. The initial year shows a large drop off in labor costs (as measured by the labor quantity index), but increases thereafter. By the year 2001, cost levels were comparable to pre-PBR levels.

**TABLE 2**  
**Labor Quantity Index; Boston Gas**  
**1990-2001**

Input Quantity	
Index—Labor	
1990	1.000
1991	0.940
1992	0.969
1993	0.871
1994	0.949
1995	0.896
1996	0.879
1997	0.816
1998	0.851
1999	0.841
2000	0.896
2001	0.895

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10 Tr. Vol. 13, page 1627, 19 – 24 (Bodanza).

The assumptive flaws demonstrated in the Company's exposition of the cost study here undermine the credibility and the validity of implementing the proposed PBR formulation.

**Boston Gas Has Failed to Provide Sufficient Empirical Basis or Reliable Evidence to Support the Proposed Consumer Dividend**

The Company has asserted that, due to its superior performance under its last PBR Plan, it has eliminated obvious inefficiencies from its operations and can offer only incremental improvements in its overall performance. This rationale provides the basis for its proposed 0.15 percent Consumer Dividend.<sup>11</sup> The Company's Proposal itself is unprecedented, being the lowest Consumer Dividend to be suggested to the Department.<sup>12</sup>

While the data produced by the Company during the hearings contradict the Company's position concerning performance, as set forth above, the protocol employed by the Company to formulate the Consumer Dividend bears examination in light of the oft-repeated admonitions concerning precision in formulating these components. The methodology for offering the lowest Consumer Dividend proposed to the Department demonstrates how an integral component of the Proposed Plan is inherently unreliable.

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11 Exh. KEDNE/JFB – 1; pages 24 – 25; Exh. AG – 7 – 11.

12 Exh. Information Request MDFA 3-2.

The evidence offered by the Company's two PBR witnesses explaining the derivation of the Consumer Dividend is contradictory and unenlightening. Dr. Kaufmann initially claimed that the Company used empirical and historical evidence to derive the Consumer Dividend.<sup>13</sup> In response to Department questioning, Dr. Kaufmann revised his response, calling the derivation of the 0.15 percent figure a "reasonable judgment"<sup>14</sup> that had been informed by substantive information obtained from discussions with Mr. Bodanza.

Finally, in responding to the Department's questioning, Dr. Kaufmann expressly stated that he had no empirical evidence demonstrating the claimed difficulty the Company would have in achieving further cost reductions, such difficulty being the basis for the proposed Consumer Dividend.<sup>15</sup>

Mr. Bodanza initially stated that there was no empirical basis for the Company's Consumer Dividend;<sup>16</sup> contradicting Dr. Kaufmann. Mr. Bodanza testified during cross-examination that the Consumer Dividend was a management judgment made by him that considered many factors, but he refused to explain those factors or the substance

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13 Exh. Information Request DOER – 2 – 2

14 Tr. Vol. 11, page 1299, 1 – 21:

Q. If the Department accepted this .15 figure, would the Department also be accepting the methodology of selecting one half of the percentage of Boston Gas' reduction in costs?

A. No, I don't believe so. The one half was a judgment, and it was a judgment that was specific to Boston Gas at the time...

Q. Why the figure of one half, Dr. Kaufmann?

A. That was – it was a judgment. It was essentially – It's difficult to pin down exactly how much, but we knew that there were these factors. All the factors, judgmental factors, pointed in the direction of a slowing of incremental TFP growth. In discussions with the company, it was determined that one half seemed to be a reasonable judgment.

15 Tr. Vol. 10, page 1259, 12 – 20.

16 Exh. Information Request D.T.E. 6 – 8

of the deliberations engaged in by him and Dr. Kaufmann.<sup>17</sup> After days of testimony, it was impossible to discern any consistent methodology, based upon valid data, to support the Consumer Dividend.

Taken together; the faulty assumptions, inaccurate data, and lack of consistent methodology; make Boston Gas' PBR Proposal inherently unreliable. The benefits of PBR may only be realized through the development and implementation of a precise, well-designed formula. The Department is in an advantageous position in this proceeding, having not merely theory and analogy from other industries, but the benefit of the information generated as the result of Boston Gas' initial PBR experience. The opportunity to merge theory with actual practice has the potential for defining an extremely useful and flexible tool for implementing incentive regulation in this proceeding.

**C. THE DEPARTMENT SHOULD CONSIDER AND IMPLEMENT AN  
ALTERNATIVE PBR FORMULATION THAT INCORPORATES  
BOSTON GAS' SPECIFIC CIRCUMSTANCES AND PROMOTES  
THE GOALS FOR INCENTIVE REGULATION**

**DOER Supports PBR as a Rate-Setting Mechanism**

DOER supports the continued use of PBR. As earlier stated, a well-designed PBR framework has a number of advantages over traditional cost of service regulation. However, it is critical that the PBR be designed to mimic, as much as possible, the incentive structures found in competitive markets. If this is not the case, the company will earn "super-normal" returns with little to show in the way of productivity gains.

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17 Tr. Vol. 13, pages 1624 – 1626

### **DOER's Alternative PBR Proposal**

The Department has articulated specific criteria for evaluating incentive ratemaking proposals in order to ensure that the Department's goals and objectives are met.<sup>18</sup> Those specific criteria, along with a discussion demonstrating how DOER's alternative proposal meets the criteria and a substantive description of DOER's alternative proposal, is set forth below, as follows:

#### **Consistency With Department Regulations, Statutes, and Governing Precedent**

DOER's alternative proposal meets this criterion. It will require no change in statutes or regulations. While it proposes an alternative to the manner in which total factor productivity ("TFP") is calculated and uses the Producer Price Index for Natural Gas Utilities ("PPI-NG"), which is a more accurate and reliable index than the Gross Domestic Product Price Index ("GDP-PI") for measuring gas utility inflation, the Department, as set out in Incentive Regulation; supra. at 42, has incorporated such formulaic changes if the overall goal of ensuring just and reasonable rates is achieved.

#### **Consistency with Market-Based Regulation and Enhanced Competition**

The Department has stated that incentive mechanisms must complement the ongoing movement towards a more market-based utility framework. In order to facilitate such movement, the Department has and should continue to advance its market oversight through the use of progressive and flexible regulatory mechanisms.<sup>19</sup>

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18 Incentive Ratemaking; supra. at 57 – 64.

19 Incentive Regulation; supra. at 58 – 59.

DOER's alternative proposal meets this criterion by offering a progressive, flexible approach that is based more in the reality of the changing competitive market than Boston Gas' Proposal.

Safeguard System Integrity, Reliability and Current Policy Objectives

DOER's alternative proposal meets this criterion by enhancing the ability of the Company, going forward, to meet the Department's goals and objectives.

Rewards Utility Performance and Addresses Exogenous Costs

DOER's alternative proposal meets this criterion by providing the Company with rewards for improved performance that are more closely akin to those provided by the competitive market. DOER's alternative proposal also provides for exogenous cost adjustments consistent with the Department's determinations in Boston Gas; 96-50 supra. at 291 and Berkshire Gas Company; D.T.E. 01-56 (January 31, 2002) at 25 – 26.

Focus on Comprehensive Results

DOER's alternative proposal, which is a broad-based incentive mechanism, perforce focuses on comprehensive results and does so in a manner that more closely resembles the competitive market than does the Company's proposed plan.

Incorporates Well-Defined, Measurable Indicators of Performance

DOER's alternative proposal incorporates measurable performance indicators that are more acutely tied to the Company's performance than what the Company has proposed and clearly meets this criterion.

Consistent with Accounting Standards and Acceptable Within the Financial Community

DOER's alternative proposal meets this criterion, being consistent with all applicable accounting standards and completely acceptable within the financial community.

Having incorporated and applied the Department's criteria, DOER proposes the following formulation:

$$PCI_t/PCI_{t-1} - 1 = (P_t/P_{t-1} - 1) - X + Z_t$$

Where  $P_t$  is the inflation factor as indicated by the Producer Price Index (PCU4981#26) for U.S. natural gas utilities (transportation only) produced by the Bureau of Labor Statistics.

X is the X-Factor given by the following formula:

$$X = (TFP^{BG} - TFP^{IND})$$

Where  $TFP^{BG}$  is the total factor productivity trend for Boston Gas and  $TFP^{IND}$  is total factor productivity trend for the gas distribution industry.

$Z_t$  is the Z-factor.

DOER believes that the above formulation is entirely consistent with the Department's goals regarding incentive-based ratemaking and the data provided by the Company regarding Boston Gas's productivity relative to its peer companies.

In addition, the formula proposed by DOER is simpler than the Boston Gas proposal because it removes a number of irrelevant elements from the existing PBR formula:

- (a) Total Factor Productivity (TFP) for the U.S. is no longer needed because the comparison of Boston Gas's productivity to the peer group, provides a more relevant analysis of the company's performance,<sup>20</sup>
- (b) Input price trend for gas distribution industry is no longer needed because the Producer Price Index for U.S. Natural Gas Companies (PPI<sub>NG</sub>) captures input-price inflation for the gas industry more effectively than the GDP-PI,
- (c) Input price trend for US economy is no longer needed due to the same reasoning as the input price trend for the gas distribution industry, and
- (d) Consumer Dividend is no longer needed because the productivity comparison accounts for the differential productivity expectations for the company.

### **Eliminate the Proposed Consumer Dividend**

DOER supports the elimination of the proposed Consumer Dividend for a number of reasons: (1) it is difficult to calculate with any certainty, (2) the theoretical and methodological basis for its calculation is tenuous at best and involves a lot of judgment, and (3) the Proposed Plan does not allow for firms that are in need of capital

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20 In NYNEX, D.P.U. 94-50 *supra*, at 172, the Department disallowed the use of company's historic productivity because of the expectation that the company's prices would change at the same rate as the industry average productivity change and the concern that productivity offsets would be based on the company's productivity would act as a disincentive to improving productivity.

These considerations, while appropriate for NYNEX, simply do not apply to Boston Gas. First, Boston Gas prices have not changed at the rate of industry average productivity changes, as the Company's own data demonstrate. Second, DOER's alternative proposal recommends that Boston Gas be given the investment of capital necessary to improve and incent productivity, eliminating the possibility of dampening incentives based upon Boston Gas' own productivity. Given the facts specific to Boston Gas, the above TFP formulation would be more effective for Boston Gas than reliance upon the prior structure. Using historic data as a benchmark for company performance is within Department precedent, as demonstrated in Boston Gas' approved Service Quality Plan in D.T.E 02-37.



for productivity-enhancing investments. Under DOER's alternative proposal, the benefit of the consumer dividend is incorporated within the productivity factor.

The Company has proposed a low consumer dividend based on the logic that Boston Gas has been a relatively good cost performer over the 1993-2000 period and that it will be difficult for the Company to equal or exceed the productivity gains that were alleged to have happened due to the first PBR plan. However, as demonstrated supra, in Table 1, Boston Gas has not been able to capture productivity gains over the PBR period. Moreover, when compared to the industry (or an industry average), it is clear that Boston Gas has room to improve its productivity. Following the logic offered by the Company, this potential for productivity gains would point to a positive (and possibly quite high) value for the consumer dividend. However, a higher consumer dividend implies lower rate increases and, possibly, less funds for productivity-enhancing investments. In sum, this example shows that use of the consumer dividend provides outcomes that prohibit productivity increases in those cases where productivity can only be increased through additional investment rather than simply cutting of costs.

Application of DOER's alternative for the proposed X-factor, (by subtracting the productivity trend for Boston Gas minus the productivity trend for the industry) results in a productivity offset of - 1.38%.<sup>21</sup>

DOER is aware of the Department's concern that setting X-factors in this manner may reduce the Company's incentive to achieve productivity reductions because of the fact that the better a company performs, the lower will be the rate increases in the

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<sup>21</sup>  $X = (TFP^{BG} - TFP^{IND})$   
 $X = (-0.85 - 0.53) = -1.38$

future. However, DOER contends that industry experience with DOER's alternative proposal has resulted in large productivity gains, especially in the British electricity industry.<sup>22</sup>

PBR (and incentive-based ratemaking in general) attempts to achieve a regulatory framework that guides companies to maximize their profits rather than maximize their rate base (and consequently, their revenues) as found in traditional cost-of-service ratemaking. DOER believes that this incentive will be maintained throughout the term of the PBR. There may be an incentive in the final year of the PBR to "show" reduced productivity in order to influence any subsequent PBR plans, but DOER believes that appropriate regulatory oversight should mitigate such activity. At the end of the plan (or at the beginning of another PBR plan), cast-off rates will need to be carefully investigated, and rates of return should be monitored throughout the PBR term. DOER further addresses this concern infra. under Earnings Sharing Mechanism and Clawback Provisions.

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22      Instead of the traditional cost-of-service-methodology.... the form of PBR adopted in the UK allowed for rates to increase by inflation minus an efficiency, or X, factor. This X factor was set periodically by the regulator in conjunction with expert studies on the level of efficiencies that were achievable and on the relative efficiencies of similarly situated firms. The result has been to allow those firms which were able to beat the X factor in terms of efficiency gains to retain some of the savings until the next distribution price review, absent windfall profits taxes or other occurrences.

Whereas electricity distribution sector productivity in the U.S. has languished at 1.2% per annum, and few jurisdictions have exceeded productivity gains of 2% per year, the UK has seen annual gains of 3.5%.

See Goulding, A.J., and J. Frayer. 2001: "X Marks the Spot: How Performance-Based Ratemaking (PBR) Affected Returns to Wirescos in the UK." Cambridge, MA: London Economics International LLC, <http://www.londoneconomics.com/pdfs/pbrinuk.pdf>

### **Comparison of Historical Data**

Table 3 compares DOER's alternative proposal to Boston Gas' current Proposal and the original PBR plan for ratemaking purposes, using historical data for the relative inflation indices. For comparison's sake, all data were normalized to 1997.

**Table 3**  
**Comparison of Different PBR Mechanisms**  
**1997-2002**

	<b>DOER Proposal</b>	<b>Keyspan Proposal as Filed</b>	<b>Previous PBR with Productivity Offset = - 0.5</b>
<b>1997</b>	\$ 100.00	\$ 100.00	\$ 100.00
<b>1998</b>	\$ 96.08	\$ 101.43	\$ 100.72
<b>1999</b>	\$ 96.20	\$ 103.09	\$ 101.67
<b>2000</b>	\$ 99.03	\$ 105.46	\$ 103.30
<b>2001</b>	\$ 99.92	\$ 108.17	\$ 105.23
<b>2002</b>	\$ <b>103.33</b>	\$ <b>109.91</b>	\$ <b>106.19</b>

**Sources: Bureau of Labor Statistics, Bureau of Economic Analysis, Keyspan, DOER**

A comparison of DOER's alternative proposal with the Company's Proposal shows that, based on historical data, DOER's proposal would have resulted in rate increases over the 1997-2002 time period, but increases amounting to less than would have resulted if the Company's Proposal or the previous productivity offset were implemented. Clearly, the Company would have had an incentive to control costs under these circumstances.

### **Inflation Index Should Correlate with Utility Costs**

Boston Gas's Proposal utilizes the Gross Domestic Product Index ("GDP-PI") as an inflation factor. In Boston Gas (Phase I), 96-50, supra. at 272, the Department

based its determination to use the GDP-PI on its decision in the NYNEX case, where the Department's initial reason, among the four discussed, for applying the GDP-PI was because no party disputed the use of it.<sup>23</sup>

DOER contends that the use of DOER's recommended inflation index; the Producer Price Index ("PPI") for U.S. natural gas utilities; meets the Department's overall goals and objectives for incentive regulation more effectively than the GDP-PI and that the use of this alternative approach affords greater consistency with Department precedent.<sup>24</sup>

DOER's alternative proposal no longer depends on calculation of economy-wide, multi-factor productivity, as discussed above. Further, as illustrated in Table 3, DOER's alternative proposal would not necessarily result in rate increases every year, as is likely in the Company's Proposal. Thus, use of the formula recommended by DOER allows implementation of an inflation index that more closely tracks natural gas industry prices and, as was shown in Exhibit KEDNE/LRK-1 (p.4), industry costs.

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23 See NYNEX; D.P.U. 94-50, supra. at 148 - 149:

No party disputes that GDP-PI is the appropriate measure for inflation in a price cap formula. The record indicates that the GDP-PI is the most accurate and relevant measure of the output price changes for the bundle of goods and services whose TFP growth is measured by the Bureau of Labor Statistics, is readily available, more stable than other inflation measures, and maintained on a timely basis.

24 While the GDP-PI has been relied upon historically by the Department, it is not an accurate index of changes in the production factors faced by any one particular industry; it is a proxy. Conversely, a primary use of the PPI-NG is to measure real growth in output for the industry, which GDP-PI does not effectively capture. **Because the PPI accurately foreshadows subsequent price changes for industry and for consumers, it is relied upon as an economic indicator by Congress and the Federal Reserve for formulating fiscal and monetary policies.** See <http://www.bls.gov/ppi/ppifaq.htm>

The PPI-NG is more accurate and relevant here than the GDP-PI, is just as available, just as timely, and more directly applicable to Boston Gas than the GDP-PI. See also Exh. DTE RR-36; Mark Newton Lowry, Ph.D., Lawrence Kaufmann, Ph.D., Lullit Getachew, Ph.D.; *Price Control Regulation in North America: Role of Indexing and Benchmarking*; Pacific Economics Group (2002) at 6, endorsing the use of alternative macroeconomic inflation measures, including the GDPPI, the CPI, and the PPI. The formula adopted by Pacific Economics Group for San Diego Gas and Electric's proposed PBR Plan selected the PPI as best suited to the specific circumstances of that company.

In sum, DOER recommends that the Company use the Producer Price Index for U.S. Natural Gas Industries as published by the Bureau of Labor Statistics.

Table 4 provides a qualitative comparison of the two indices:

**Table 4**  
**Comparison of PPI-NG and GDP-PI Indices**

	PPI – NG	GDP-PI
Output or Input Based	Output	Output
Industry Coverage	U.S. Natural Gas Utilities and Pipelines (Transportation Only)	All U.S. Industries that Produce Final Goods & Services
Availability	Very High	Very High
Timeliness	Very Timely	Very Timely
Source	Bureau of Labor Statistics	Bureau of Economic Analysis
Stability	Stable	Very Stable

Source: DOER

As illustrated by Table 4, the PPI-NG compares favorably with the currently used index. Both indices are output-based, but as mentioned above are reflective of their underlying input structure. The PPI-NG is, by definition, more indicative of the costs facing the natural gas industry. The availability and timeliness of the data are equal and both indices are published and maintained by reputable federal agencies.

Finally, though the GDP-PI, by its nature, would tend to be more stable, the PPI-NG, being a national index, has shown great stability while not sacrificing the measurement of cost pressures that gas utilities may face. DOER feels that this slight increase in volatility is worth the use of a more accurate indicator of gas-utility-related costs and is, therefore, more consistent with Department authority and precedent.

### **Inclusion of Exogenous Factors**

While Boston Gas represented during the hearings that the proposal for Exogenous Factors was identical to that approved by the Department in Boston Gas (Phase I), supra., the testimony of Mr. Bodanza made the assertion somewhat ambiguous. When questioned about the specific exogenous factors, Mr. Bodanza indicated that the Company was including an additional provision to capture other, non-specific factors not addressed in the proposal before the Department.<sup>25</sup> To the extent that any such ambiguity exists, the Department should require Boston Gas to limit the exogenous factors to precisely what was approved in Boston Gas (Phase I) and subsequently carried forward in proceedings up through and including the 2002 Berkshire Gas proceeding, supra. at 25.

In addition, in response to the Department's inquiry concerning the determination that the proposed \$ 500,000 per event threshold complied with the Department's requirement of proportionality; that is, the establishment of a threshold level for recovery of exogenous costs predicated on a percentage of operating revenues. Berkshire Gas; D.T.E. 01-56, supra. at 22. Mr. Bodanza could provide no such demonstration of proportionality. DOER recommends that the Department, in establishing the threshold level for recovery of exogenous costs, require a threshold amount consistent with its precedent relative to operating revenues.

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25 Tr. Vol. 13, pages 1597 – 1598.

### **Earnings Sharing Mechanism and Clawback Provisions**

The Company has proposed an increase in its return on equity (“ROE”) from 11.00 percent to 12.18 percent. Based on the recent productivity experience of the Company, DOER recommends that the Department compare this requested ROE to existing, approved ROEs and allow a return that does not reward Boston Gas for its performance under the previous PBR. In addition, DOER does not support the proposed earnings share mechanism (“ESM”). The ESM provides little or no incentive for the Company to improve productivity.

Rather, DOER supports use of another mechanism for evaluating rates of return. Such a mechanism should address two concerns: (1) ensure that revenues are applied to productivity-enhancing investments and not simply plowed into shareholder return, and (2) provide further incentives for the Company to pursue productivity increases.

DOER recommends that, as part of the Department's final, approved PBR plan and annual review of PBR compliance filings, the Department consider a clawback mechanism whereby any returns gained in excess of a proscribed level during the term of the PBR Plan, such as the authorized ROE, be returned to ratepayers in the event that the Company does not show productivity enhancement during the PBR period.

DOER recognizes that year-to-year analysis of changes in costs and productivity may not yield realistic results, especially if lags are involved in appearance of productivity. Consequently, DOER recommends that, rather than annual adjustments to the Company's return and prior to the end of the approved PBR term, the Department compare the Company's average annual five-year productivity change over

the 5-year period of the plan to a benchmark, defined as the average annual five-year productivity change over the five year period for the Northeast peer group, in order to determine if any clawback of revenues is warranted.

DOER recommends a method akin to the current service quality guidelines, whereby the Company's performance is compared to an historic benchmark. If the performance of the Company is within one standard deviation of the benchmark, as measured by the five year, weighted-average ROE, no revenues in excess of the authorized rate of return are returned to ratepayers. However, if the Company's performance is one standard deviation below the benchmark, then the Company must return any revenues in excess of the authorized rate of return.

Conversely, if the Company's performance is greater than one standard deviation above the benchmark, the Company shares the gains above the authorized rate of return with 25 % returning to ratepayers.

#### **Term of the PBR Plan**

Boston Gas has proposed an initial five-year term for the proposed PBR Plan, commencing on November 1, 2003. The initial term would continue through October 31, 2008, with annual compliance filings made by the Company. Following that five-year period, the Company would be free to continue to extend the Plan, on an annual basis, by notifying the Department of its intention to do so.<sup>26</sup> Such extensions would occur automatically unless the Department initiated a base rate proceeding or the Attorney General brought a petition under C. 164, § 93.

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26 . Exh. KEDNE/JBB-1, page 27, 1 – 16.



While administrative simplicity is a desirable goal, it should not come at the risk of unfettered and exclusive control by the Company over an indefinite rate plan. DOER recommends that the Department, as it did in Berkshire Gas Company; 02-56 supra., at 8 – 9; approve the Plan for an initial five year term, after which the Department would initiate a review and determine whether the Plan continued to ensure just and reasonable rates. Any further term should be should to the Department's express review and approval, in conjunction with an opportunity for all interested parties to intervene and participate.

#### **IV. CONCLUSION**

Based on the data and information provided by Boston Gas, the Company's Proposed Plan simply will not be effective in implementing the Department's goals and objectives for incentive regulation. The Company did not become more efficient over the term of its first PBR Plan and it did not succeed in optimizing productivity.

Boston Gas requires a PBR Plan that provides for sufficient capital to allow the Company to become more efficient and achieve the promise of a well-designed PBR Plan, which is provided by DOER's alternative PBR proposal.

Concomitantly, Boston Gas requires a mechanism that, in a simple and administratively effective manner, ensures that investments are made to ensure efficiency, productivity, safe, reliable, and least-cost service, investments that benefit Massachusetts ratepayers. DOER's alternative PBR proposal, utilizing the clawback mechanism, will effectively ensure the necessary balance be maintained between

investors and customers.

DOER's alternative PBR Proposal will achieve the Department's goals and objectives, satisfies the Department's criteria for PBR Plans, and will allow for progressive Company/Customer synergies over the term of the Plan.

Therefore, DOER requests that the Department adopt DOER's alternative proposal and incorporate the recommendations concerning exogenous factors and the term of the PBR in its final Order in this proceeding.

Respectfully submitted,

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